

100
102
104
106
108
110
112
110(p)
112(p)
104(p)
106(p)
108(p)

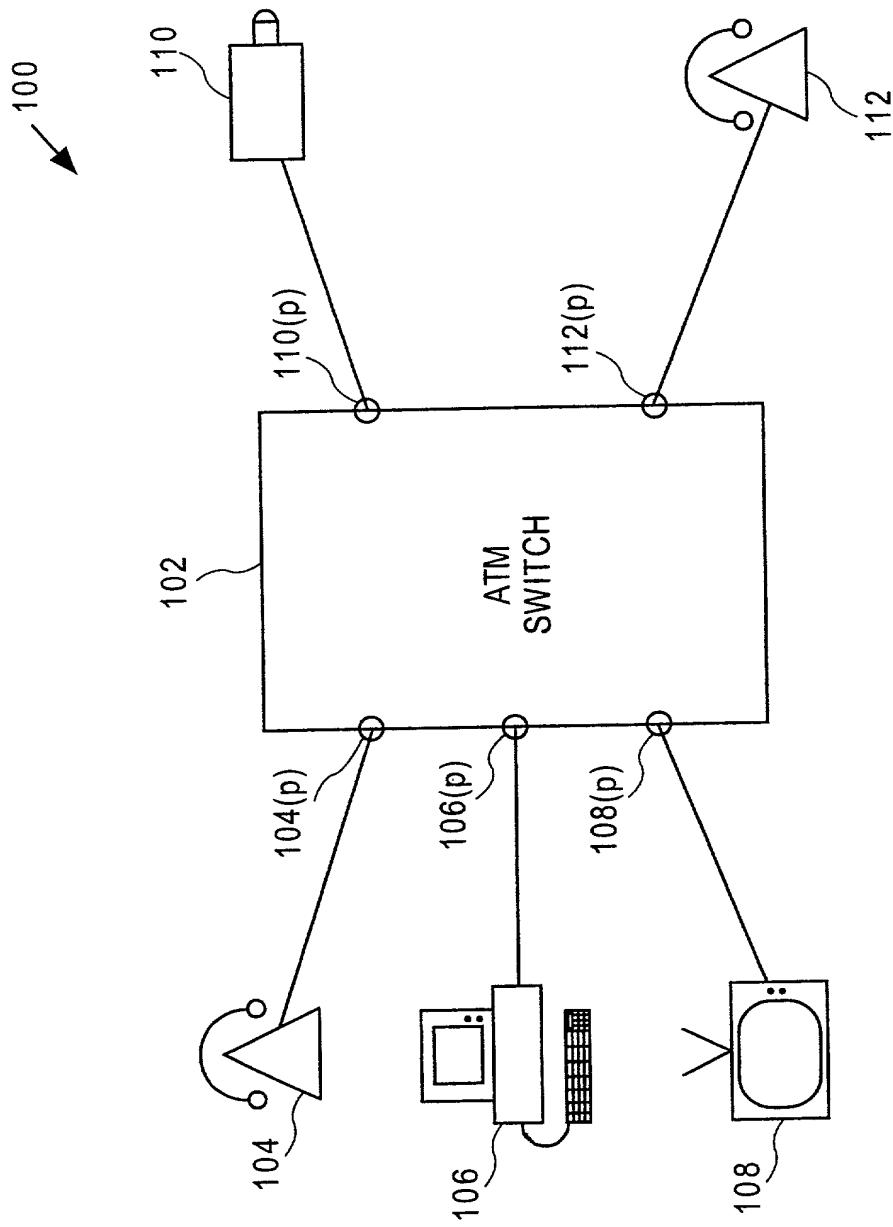
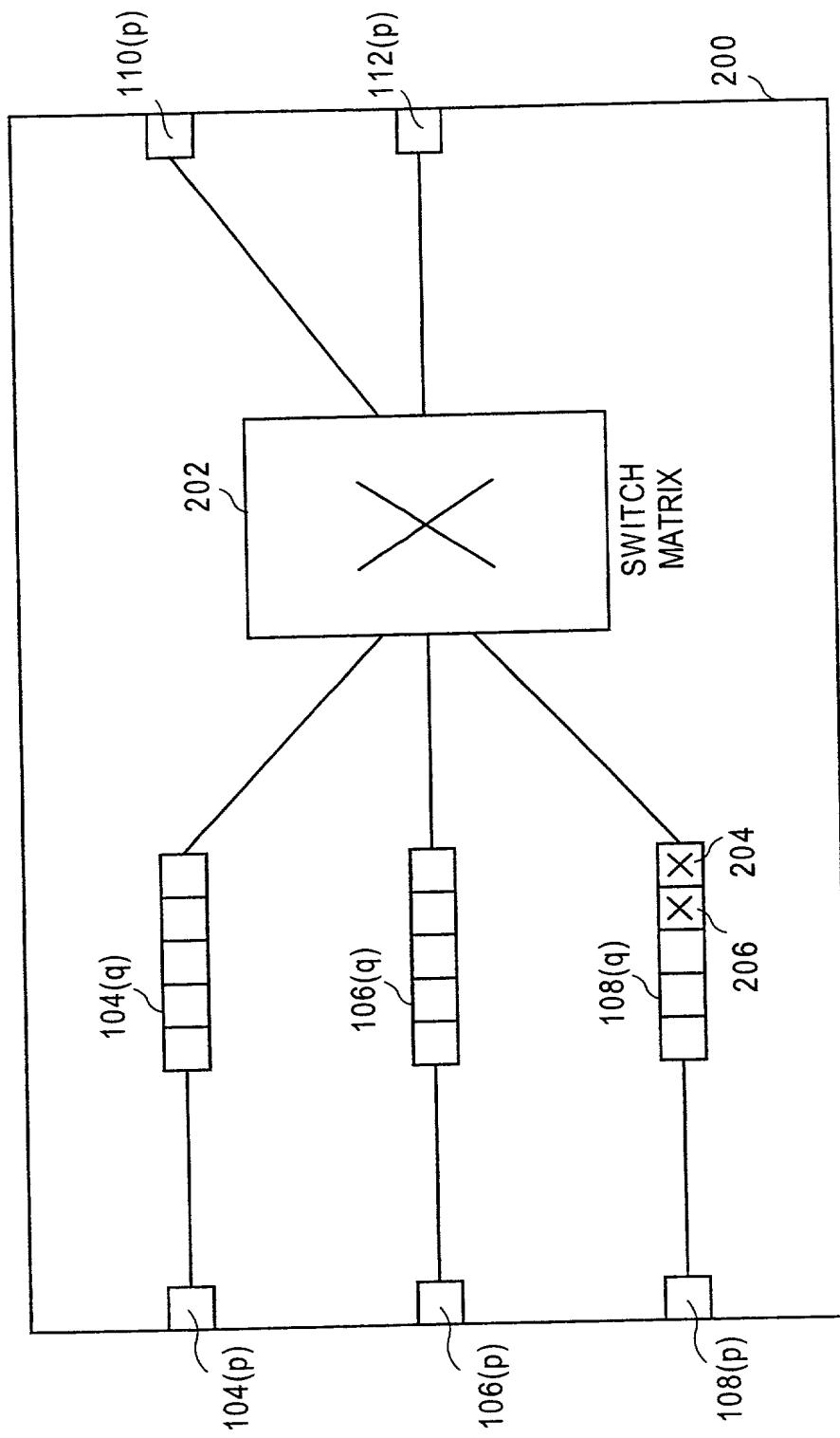


FIG. 1
(prior art)

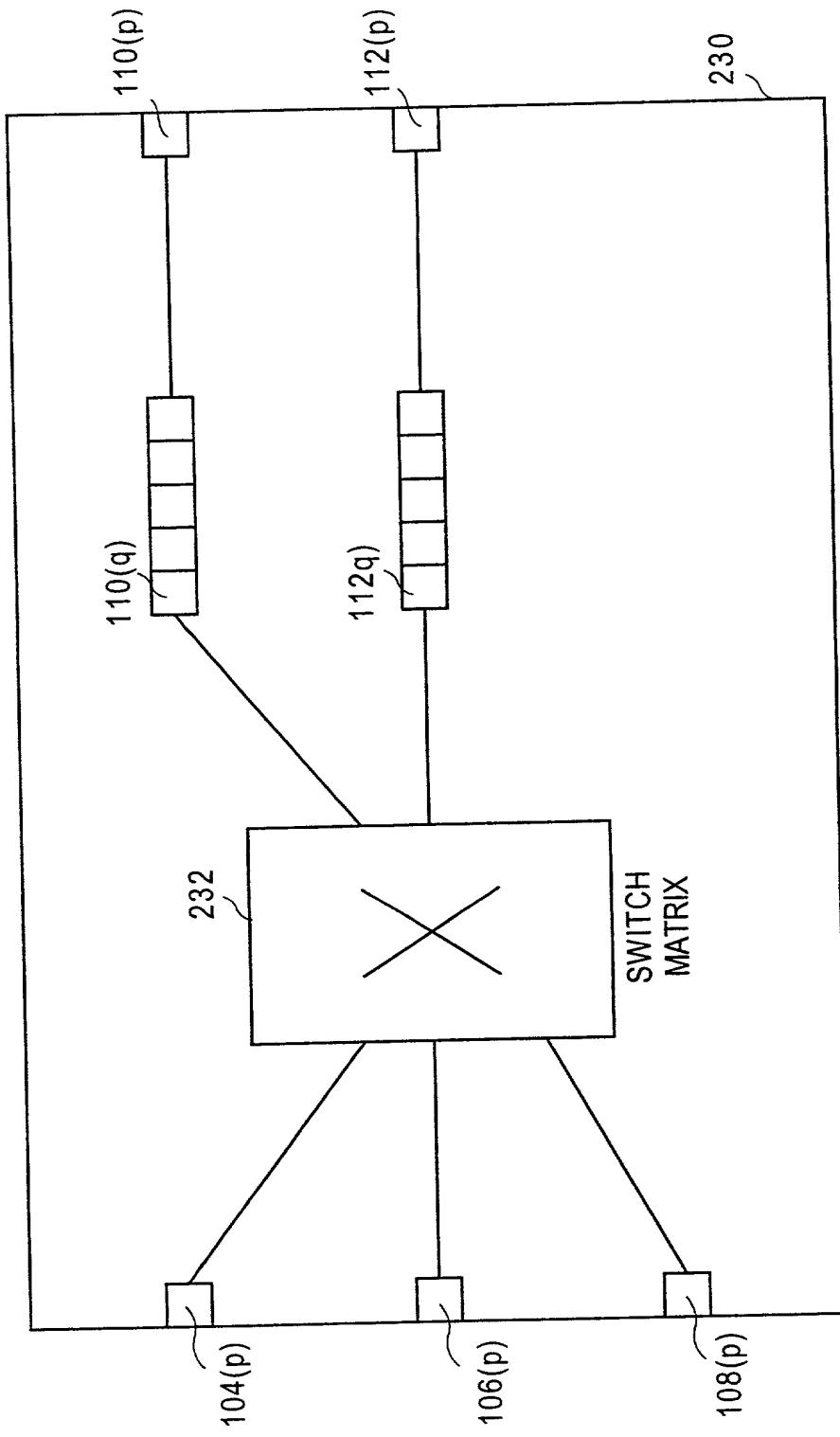
more than one input line to a single output line. If the input lines are labeled q_1, q_2, \dots, q_m and the output line is labeled p , then the output line p is labeled $q_1 \oplus q_2 \oplus \dots \oplus q_m$.



INPUT BUFFER SWITCH

FIG. 2A
(prior art)

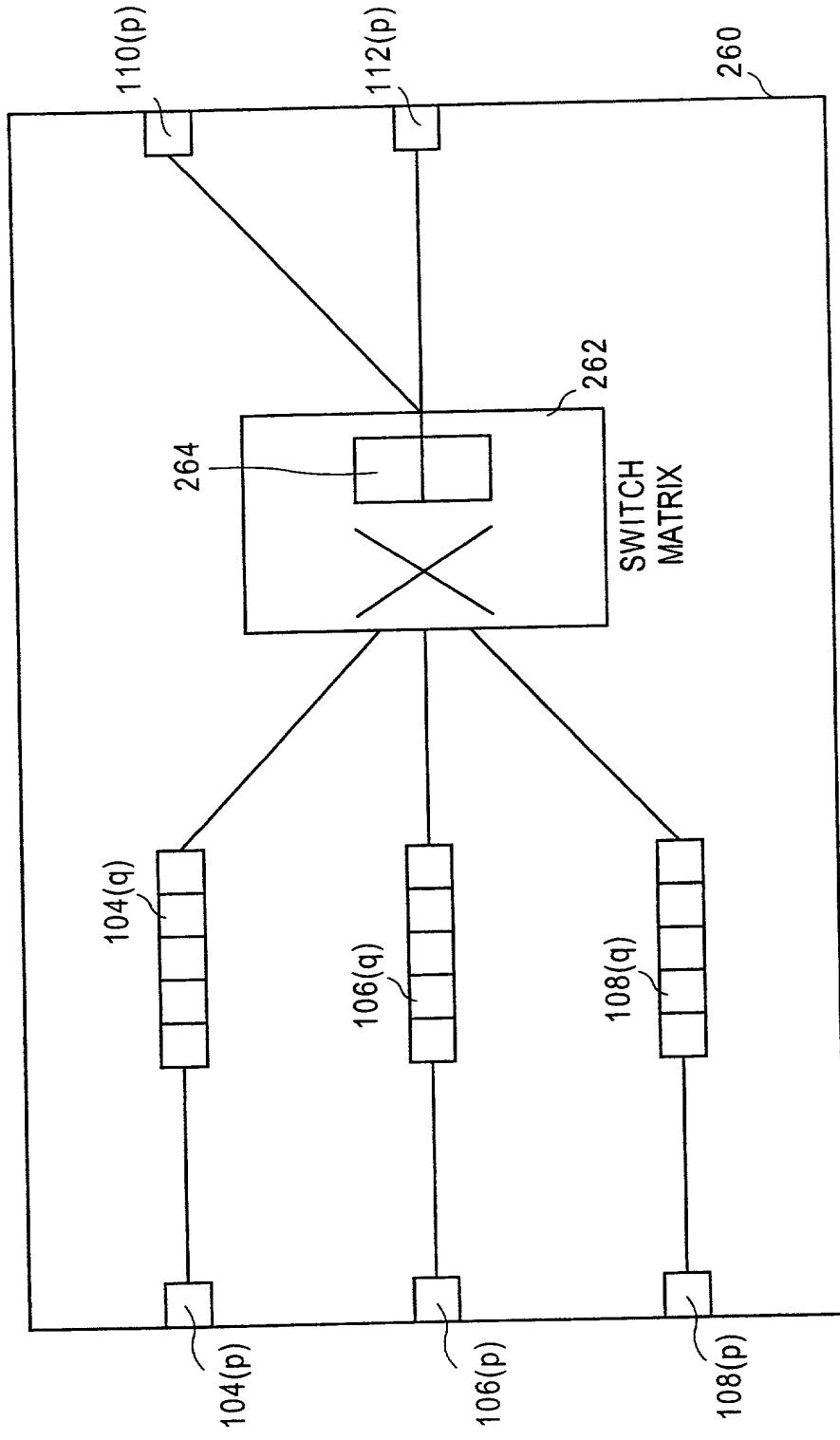
equation, showing the effect of non-linearities on the output of the system. The equations are as follows:



OUTPUT BUFFER SWITCH

FIG. 2B
(prior art)

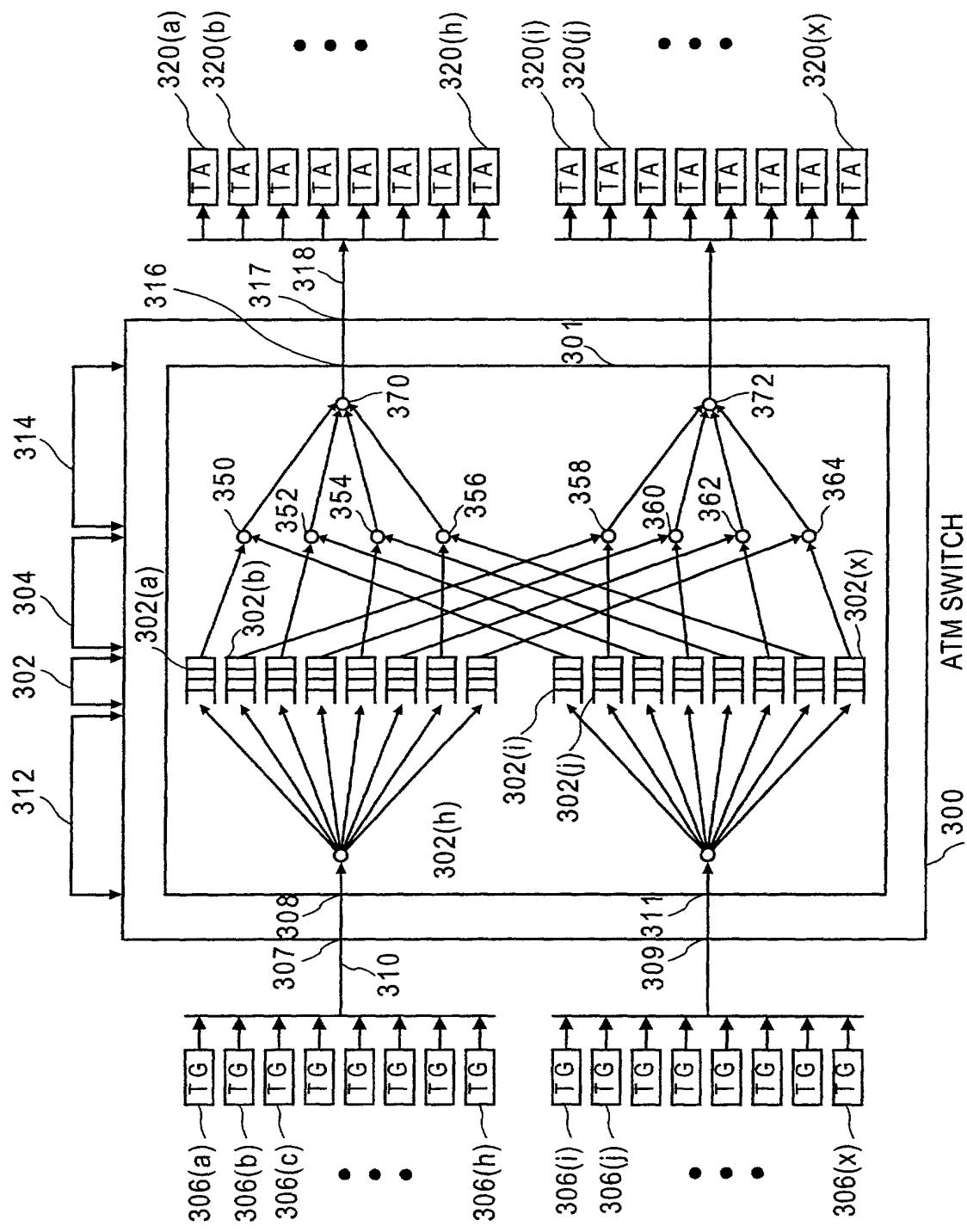
104(q) 106(q) 108(q) 104(p) 106(p) 108(p) 110(p) 112(p) 260 262 264



HYBRID SWITCH

FIG. 2C
(prior art)

FIG. 3



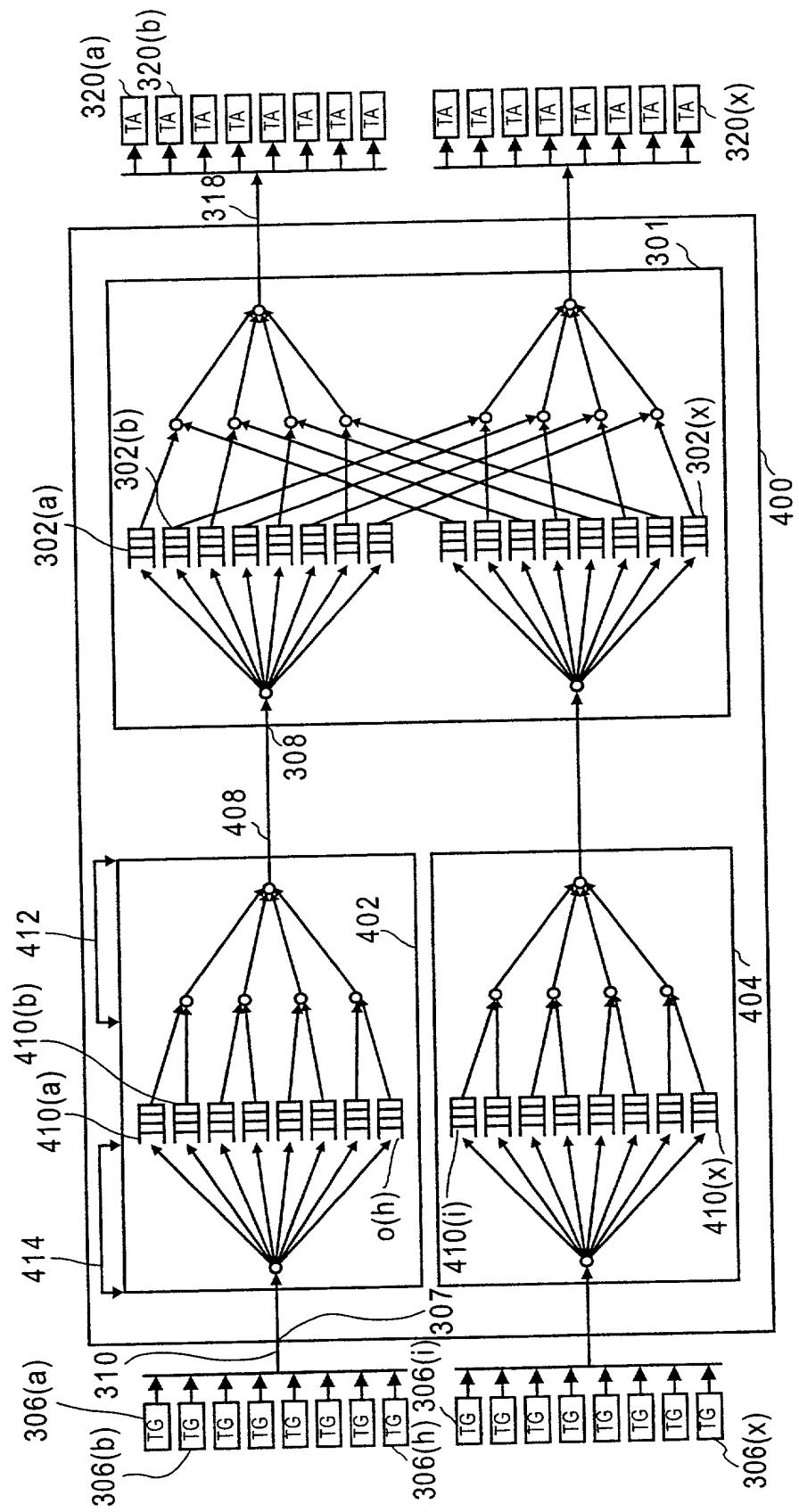


FIG. 4

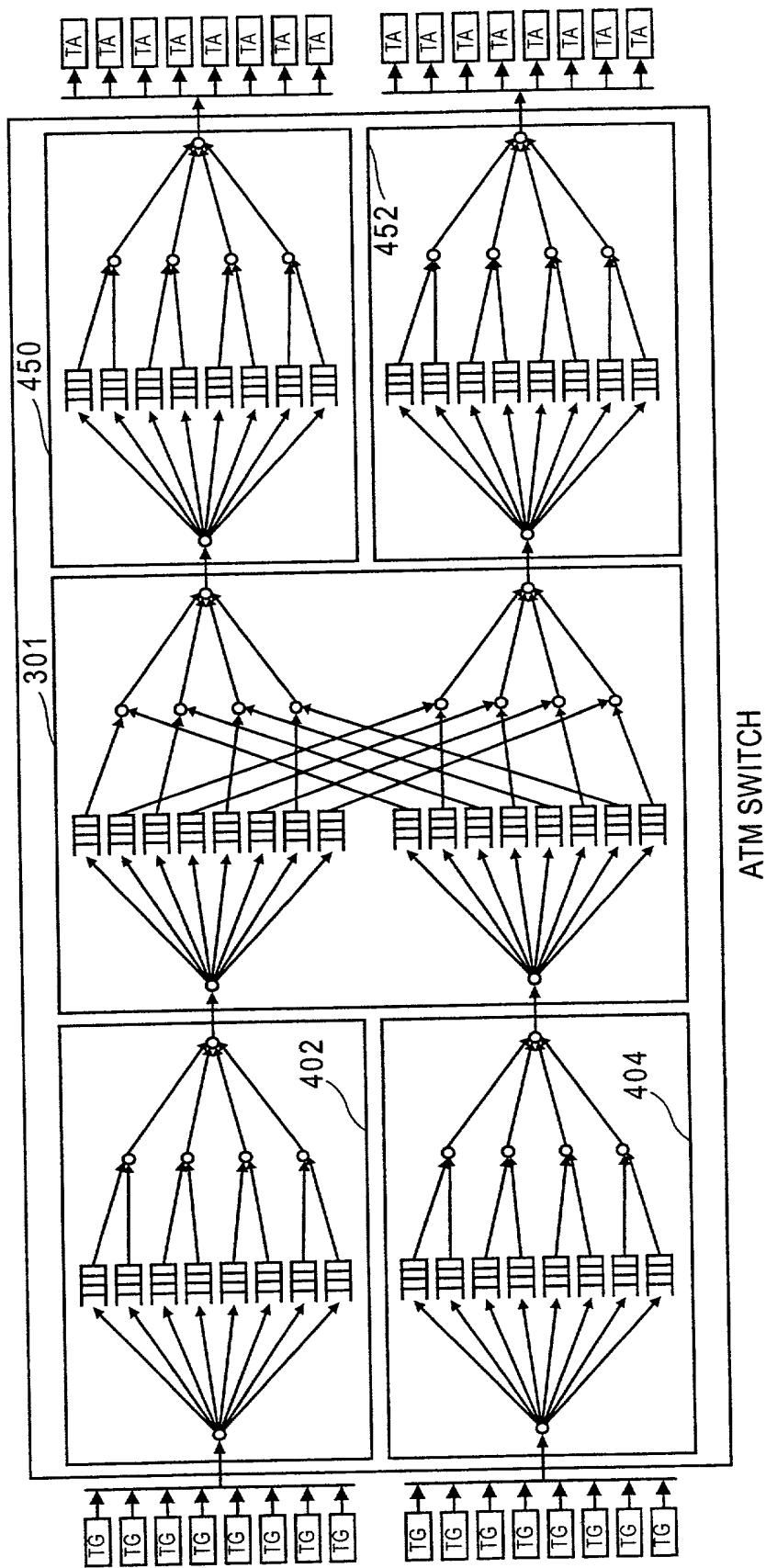


FIG. 5

ATM SWITCH

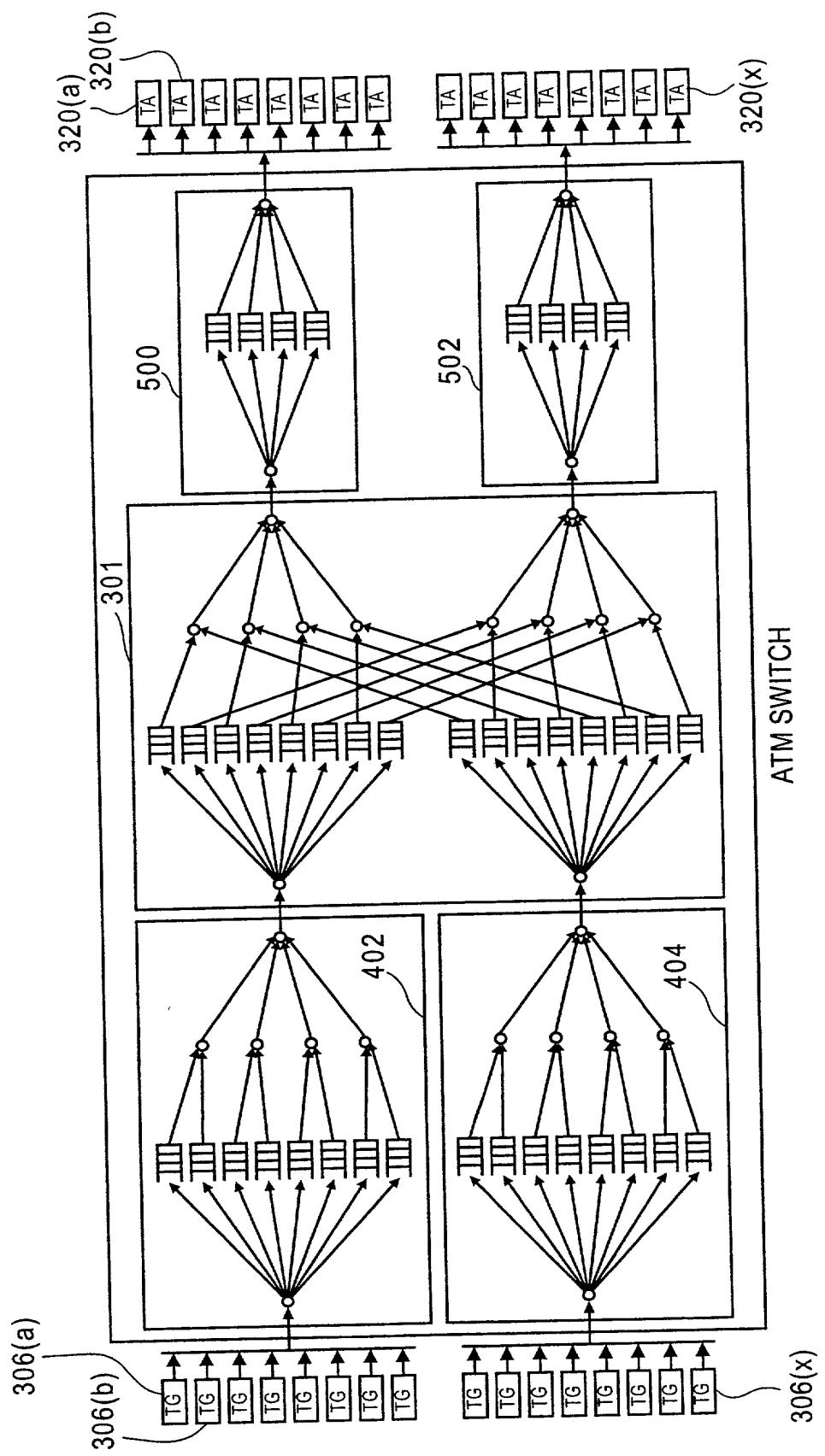


FIG. 6

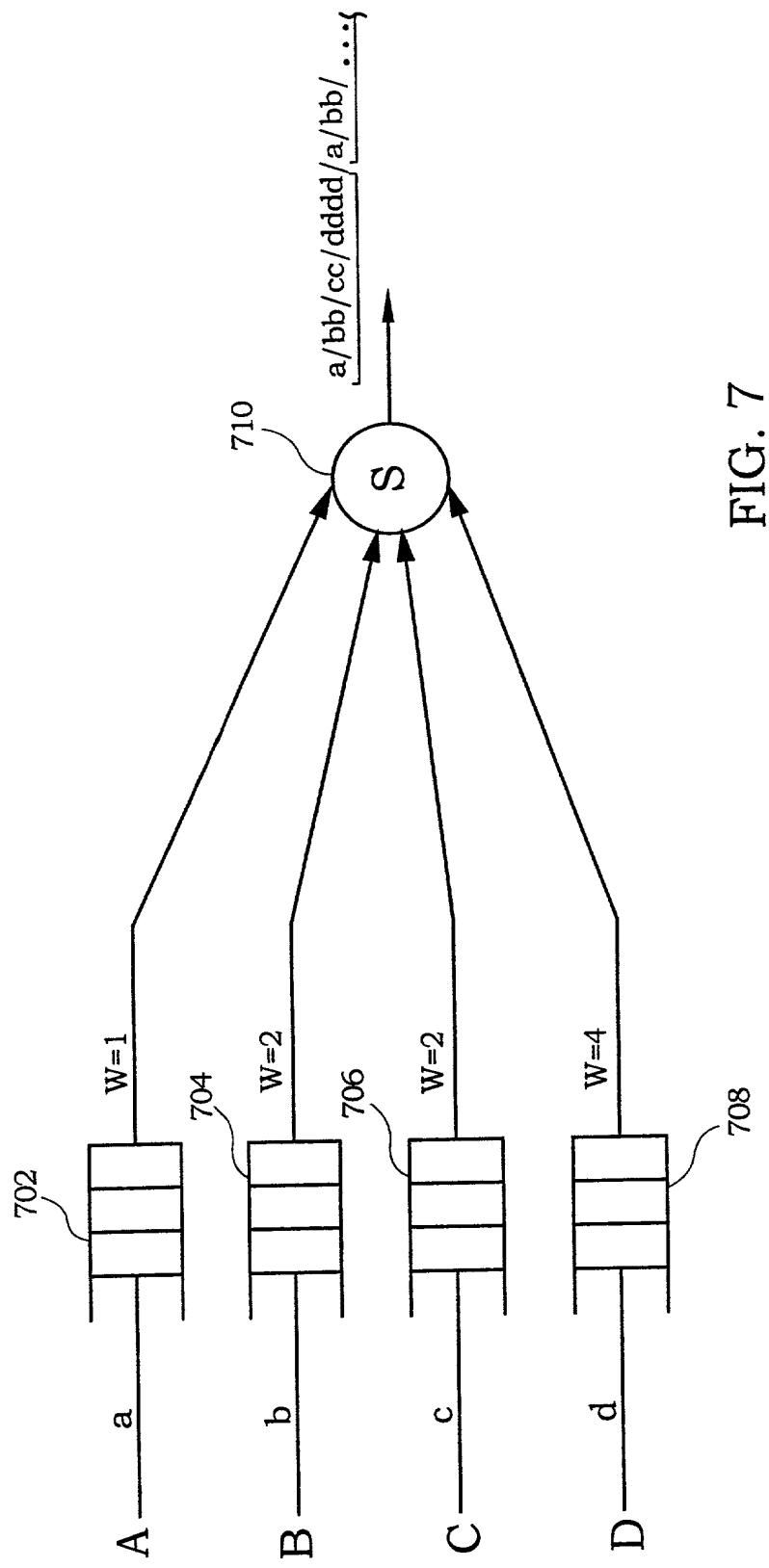


FIG. 7

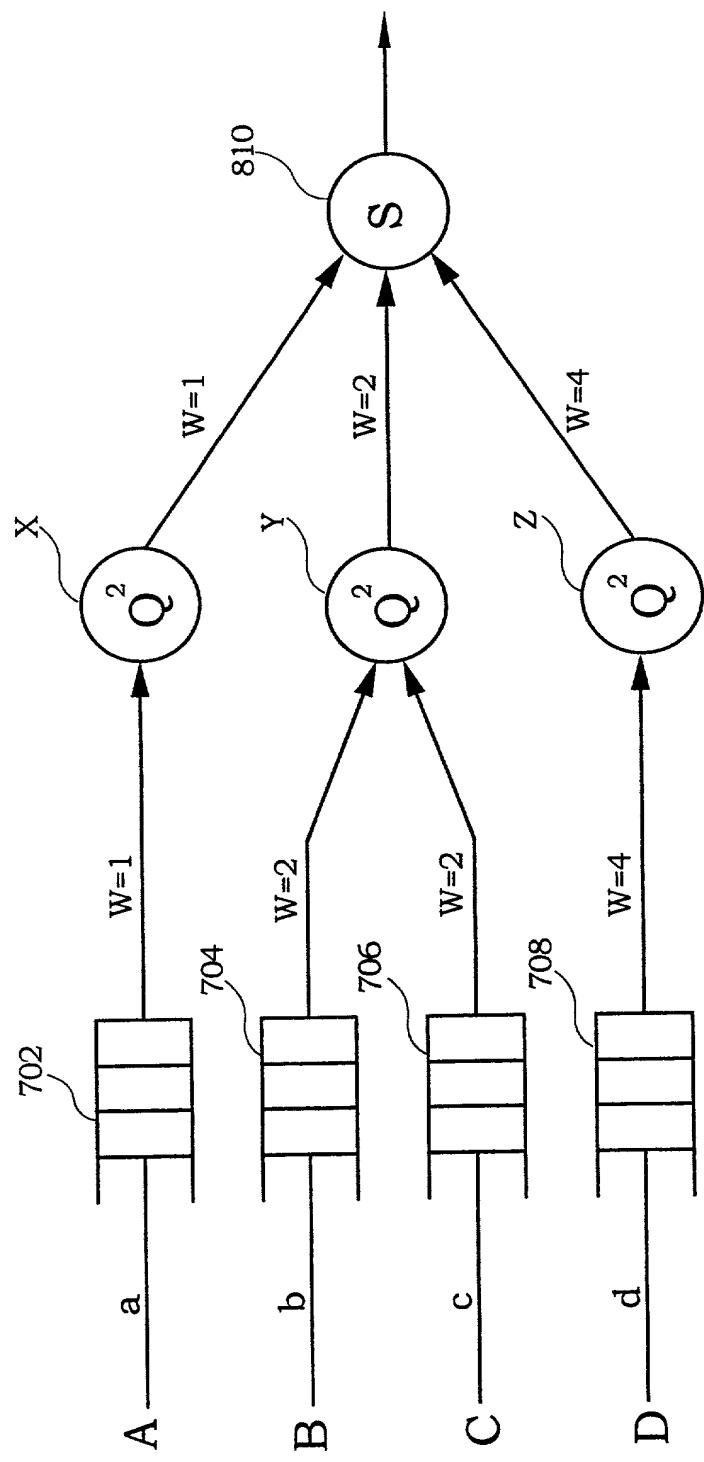


FIG. 8A

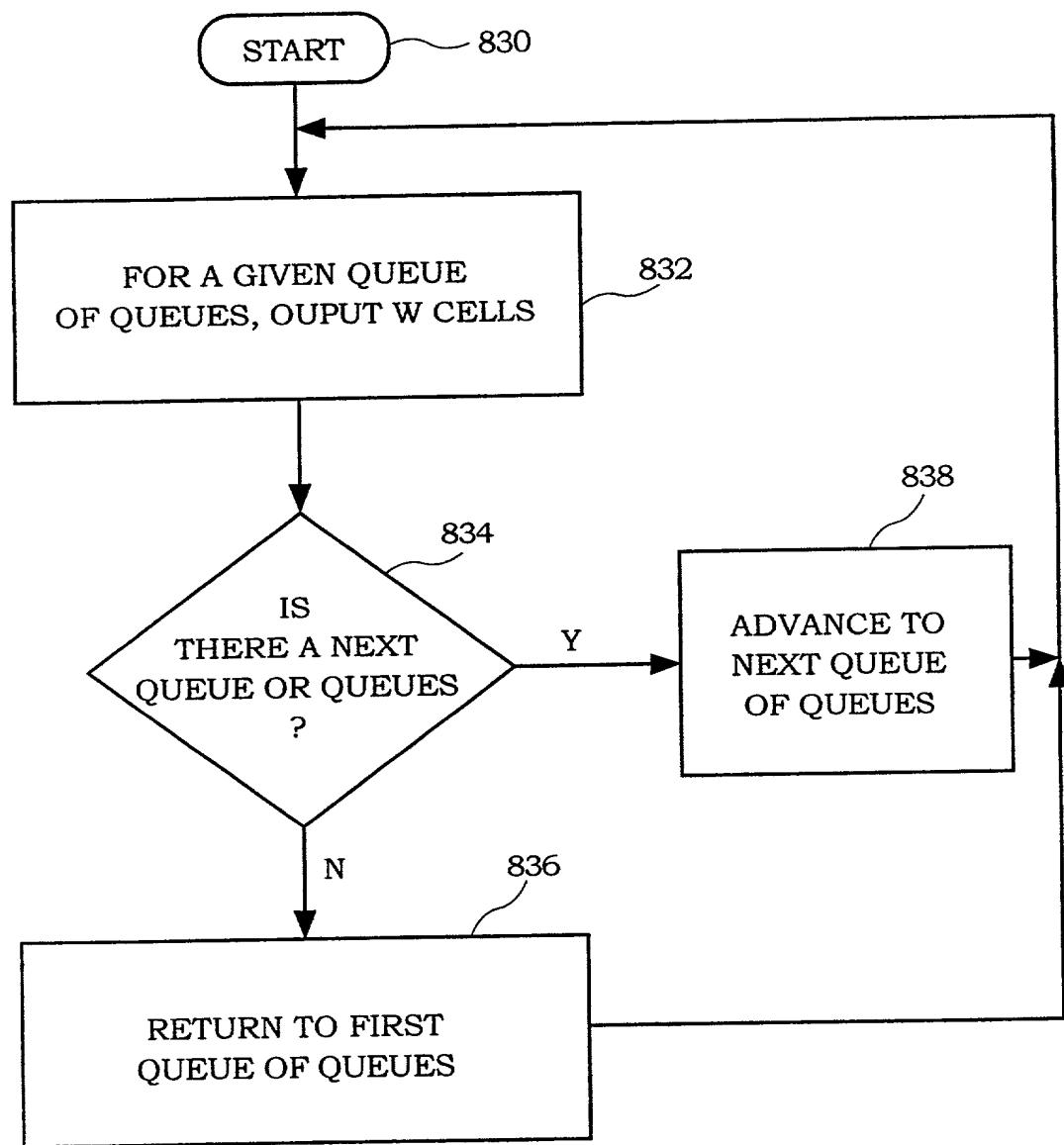


FIG. 8B

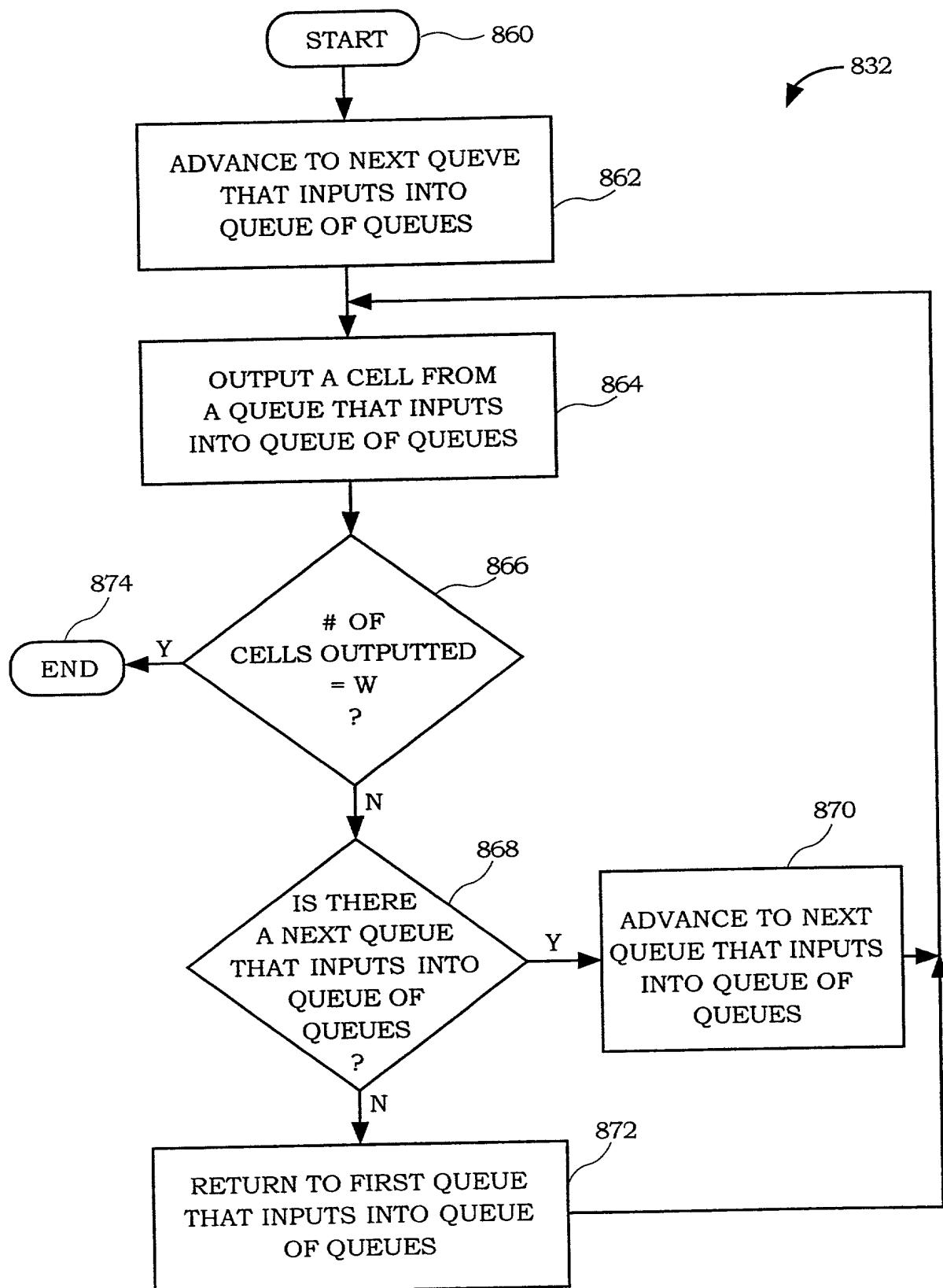


FIG. 8C

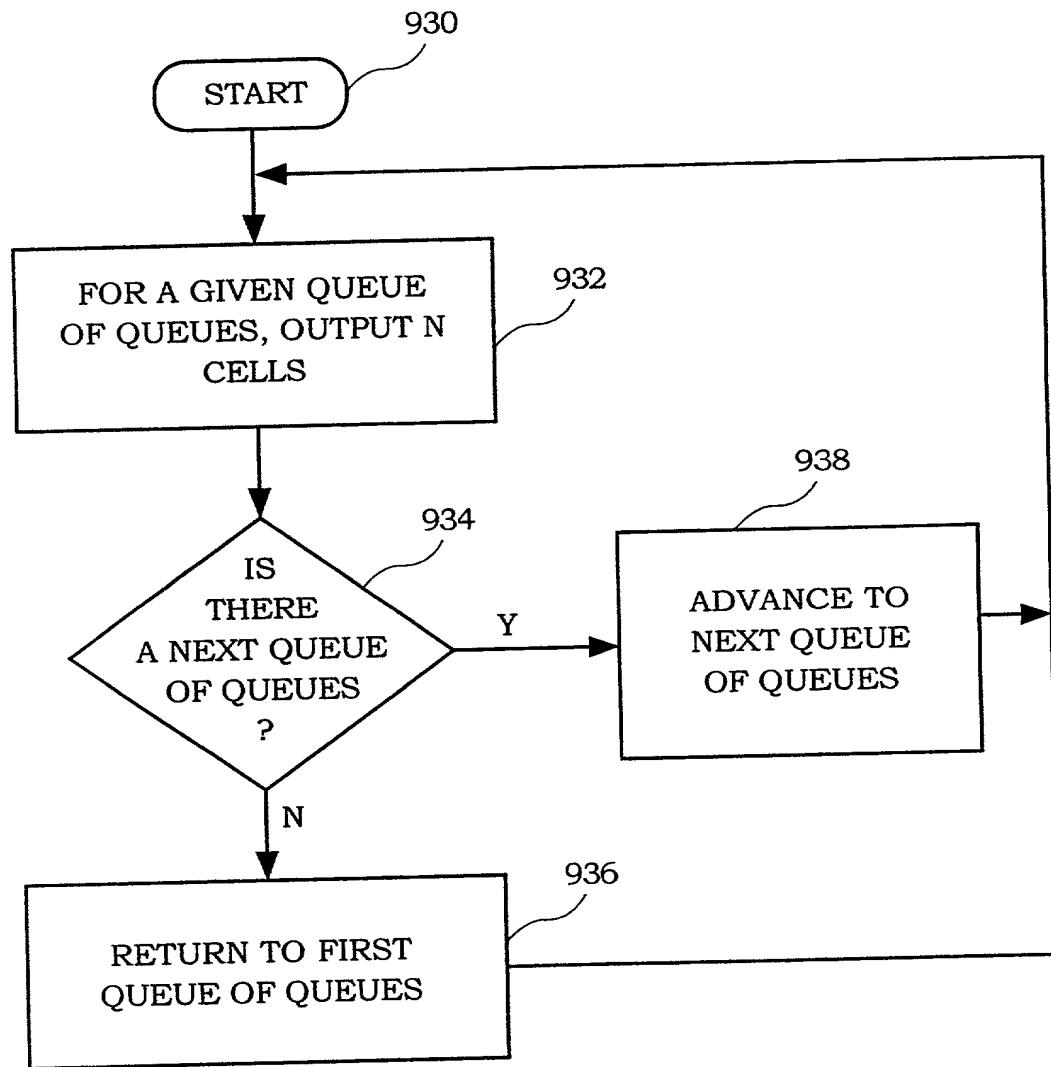


FIG. 9A

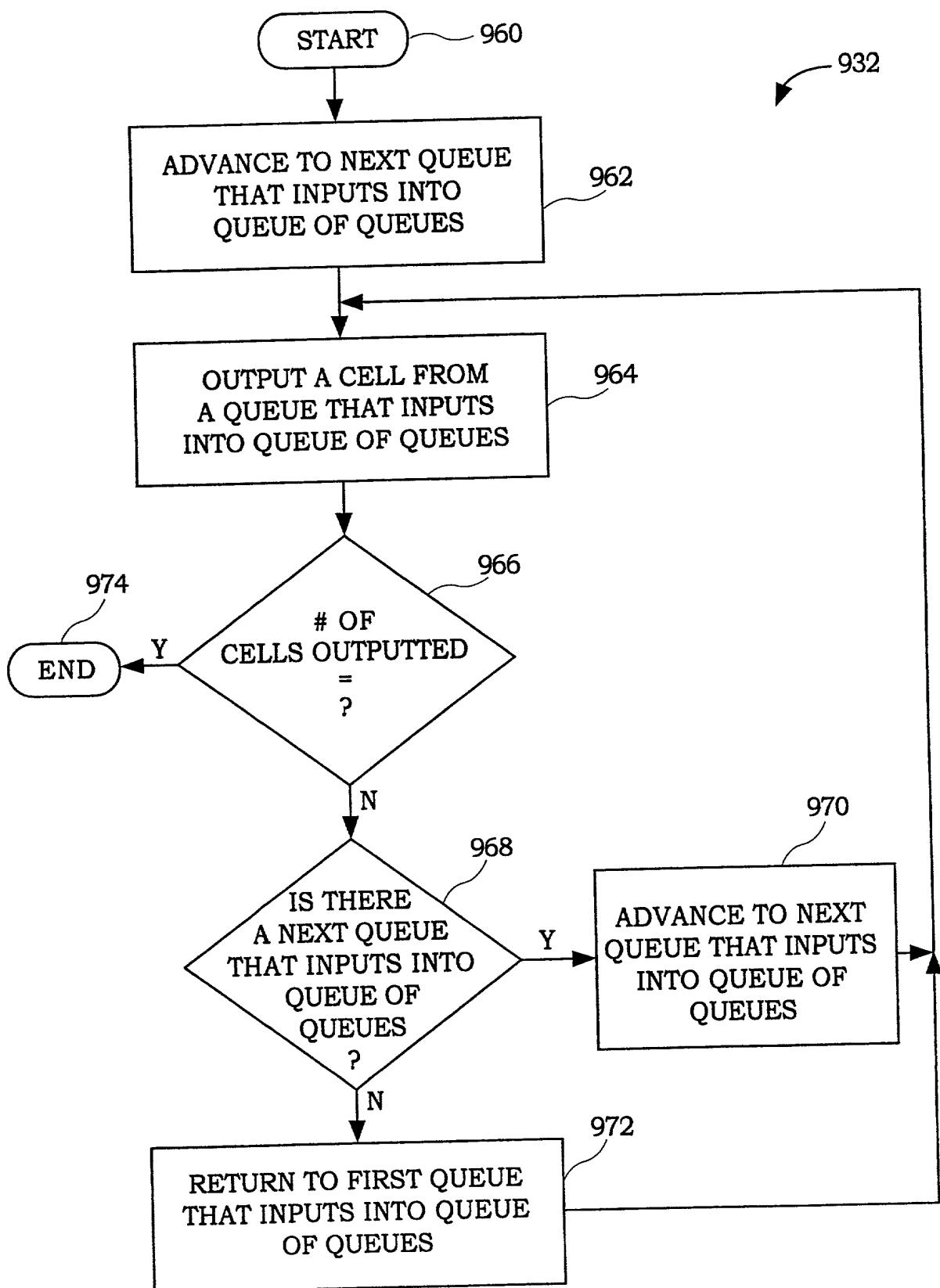


FIG. 9B

Queue of Queue	Static Weight	Dynamic Weight												Row #	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
X	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Y	2	2	2	1	1	0	0	0	2	1	1	0	0	0	2
Z	4	4	4	4	3	3	2	1	0	4	4	3	3	2	1
															3
															4
Output		X	Y	Z	Y	Z	Z	X	Y	Z	Y	Z	Z		
Column #		1	2	3	4	5	6	7	8	9	10	11	12	13	14

FIG. 10

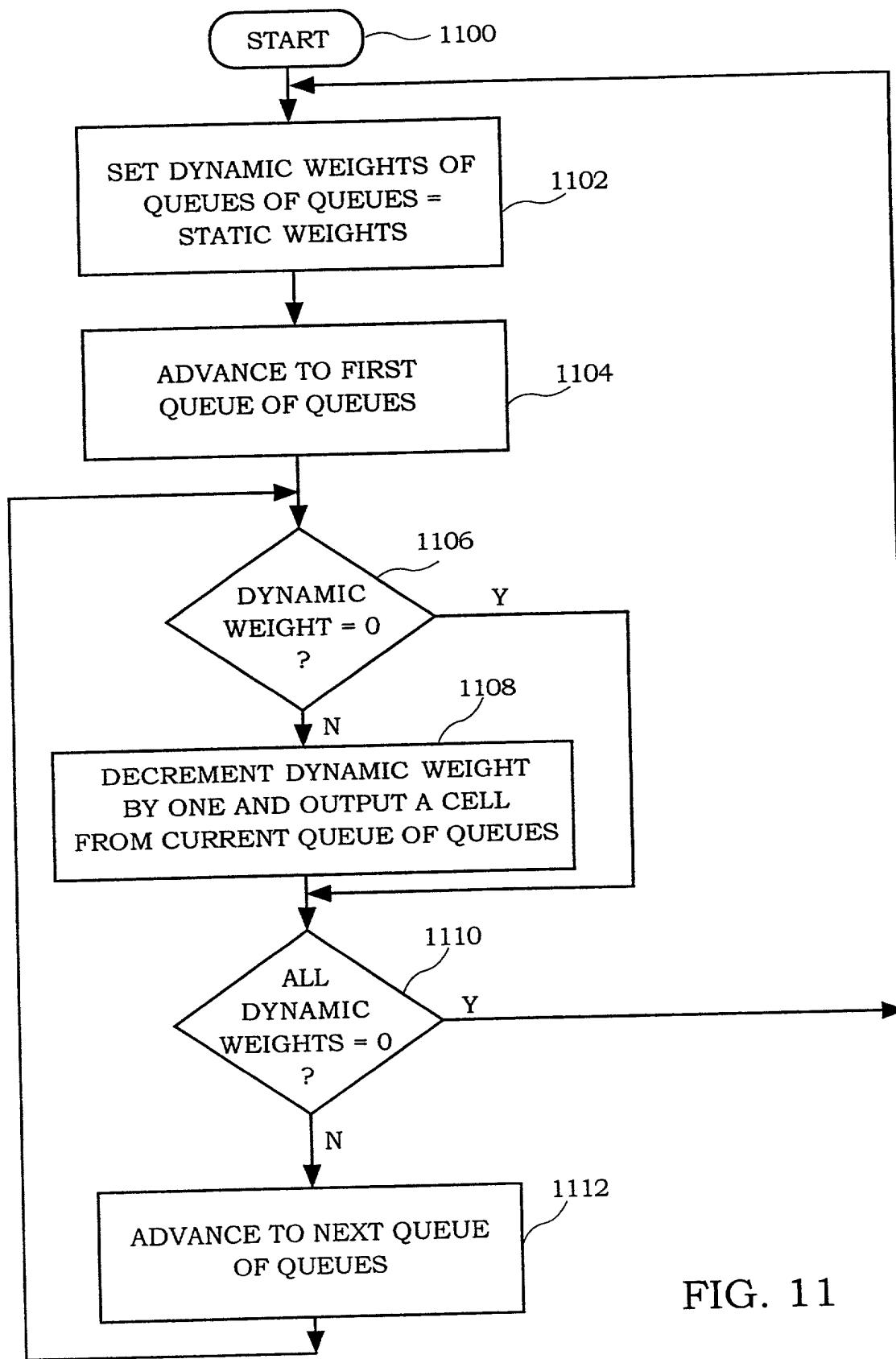


FIG. 11

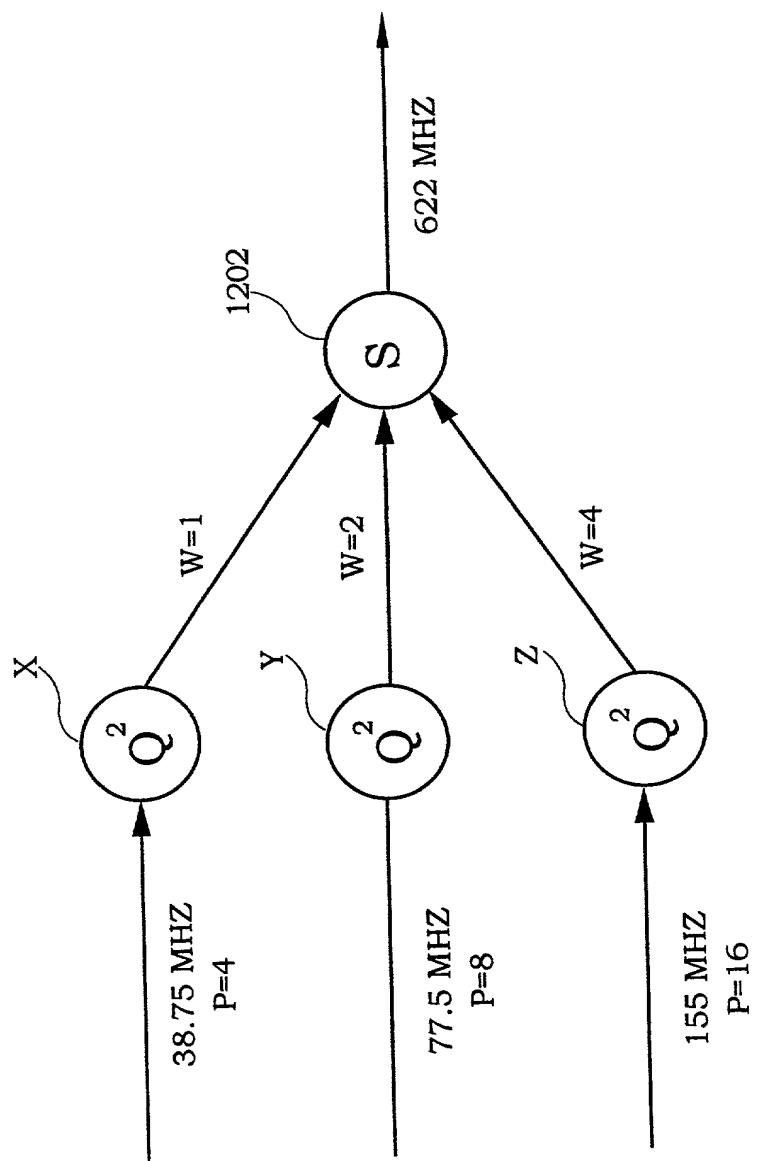


FIG. 12

FIG. 13

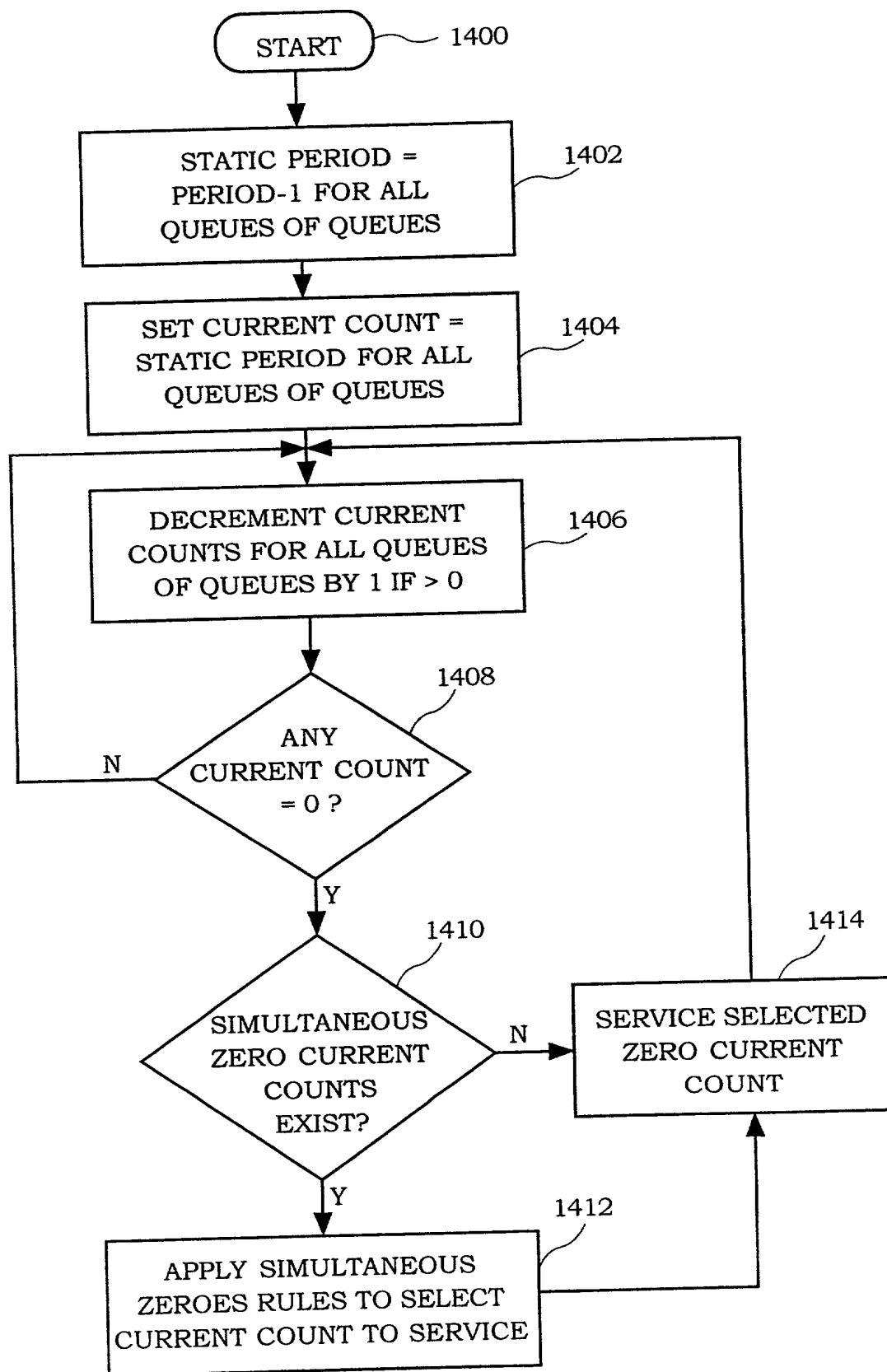


FIG. 14

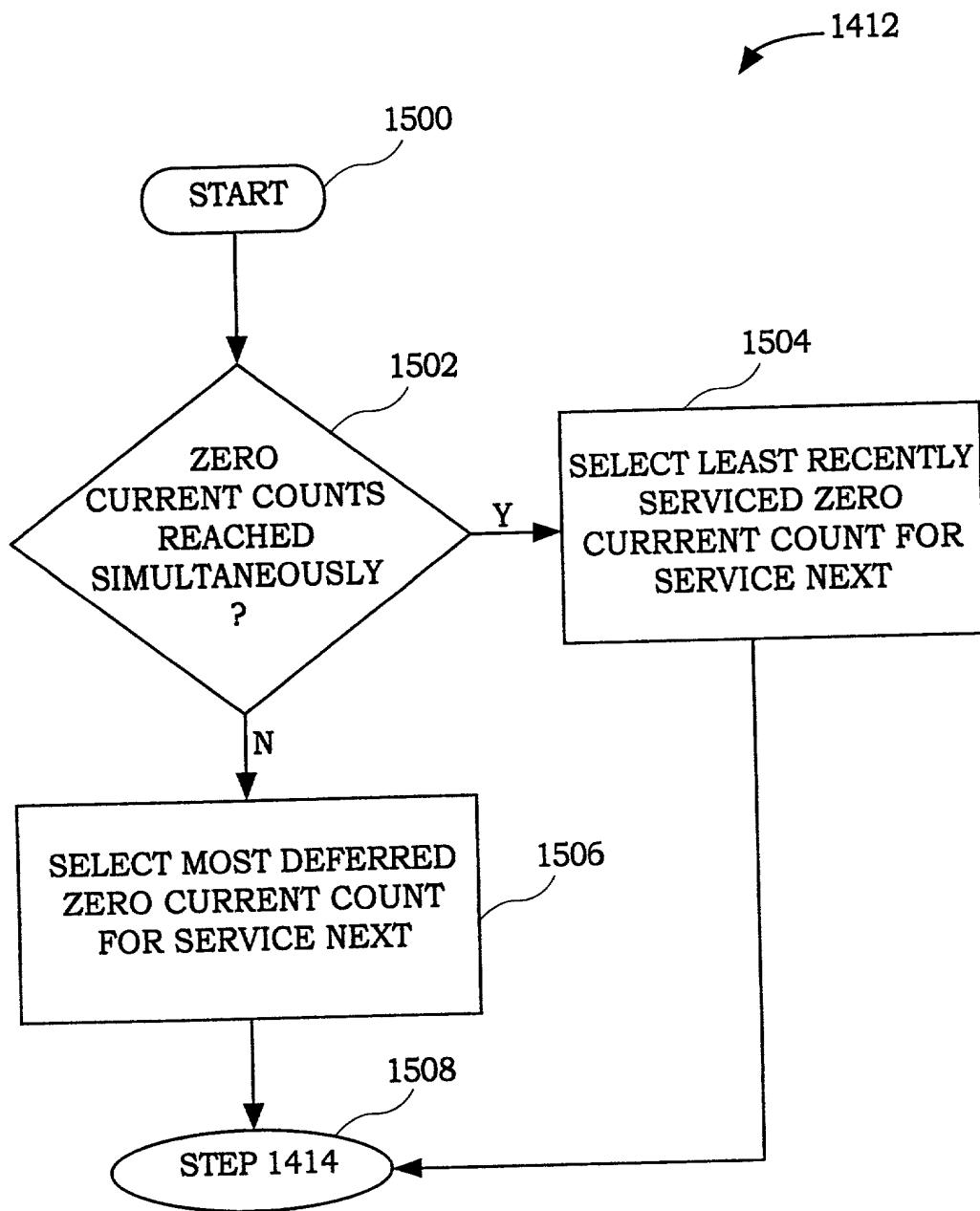


FIG. 15

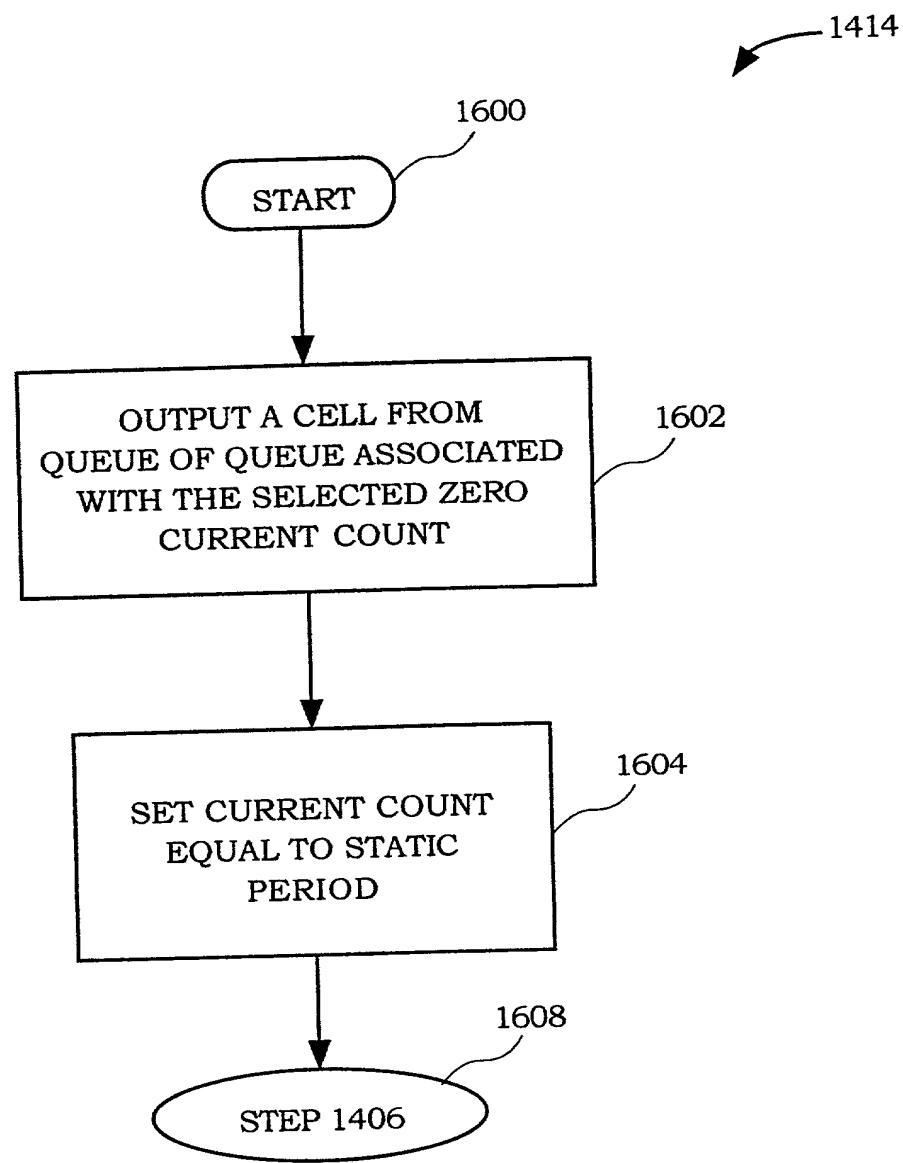


FIG. 16

Queue of Queue	Static Period	Static Period Current Count												Row #									
		x	y	z	x	y	x	z	x	y	x	z	x										
X	1	0	1	0	0	1	0	0	1	0	1	0	1	0									
Y	3	2	1	0	3	2	1	0	3	2	1	0	3	2									
Z	3	2	1	0	0	3	2	1	0	0	3	2	1	0									
														3									
														4									
Output		x	y	z	x	y	x	z	x	y	x	z	x										
Column #		C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22

FIG. 17